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The Sacred and the Profane of Budget Cycles: Evidence from Italian Municipalities

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Abstract

This paper investigates the influence of the staggered schedule of Italian mayoral elections and of the calendar of traditional religious celebrations (Patron Saint days) on the timing of fiscal decisions and on the selection of candidates. We find that potentially disruptive local income tax increases are more likely to be taken after local elections and Patron Saint Days. Moreover, when the elections take place during the weeks leading to Patron Saint day's traditional celebrations, the elected mayors tend to exhibit milder ideology and higher indicators of valence, reinforcing the hypothesis that local folklore contributes to increasing the sense of community and lowering the ideological stakes of local races.

Keywords: budget cycle; elections; local taxation; folklore; social capital

JEL codes: H71; H72; D71

1. Introduction

The idea that incumbent governments time their fiscal policies in order to signal their competence and boost their re-election chances (Rogoff and Sibert, 1988; Rogoff, 1990) has been an influential one in the political economy literature of the past decades. However, it is increasingly recognized that the incentives to produce a political budget cycle depend on circumstances (Shi and Svensson, 2006). In particular, recent literature suggests that social capital plays an important role in improving the quality of public policies through active participation and monitoring, strengthens the accountability of elected officials, and possibly weakens the incentives of budget manipulation (Boix and Posner, 1998; Knack, 2002; Atkinson and Fowler, 2014; Repetto, 2018).

This paper aims at studying empirically within a unitary conceptual framework the consequences of the arrangement of the fundamental institutions of representative democracy (local elections) as well as of the calendar of social-capital-boosting recurrent events (annual traditional religious celebrations) on the scheduling of key municipal fiscal decisions by incumbent governments. In order to assess the impact of those potential shocks on the political cost of raising taxes, this paper uses for the first time a rich panel dataset of over 8,000 Italian municipalities during the years 2007-2015 containing detailed information on the timing (day of the year) of the fundamental fiscal policy decisions by incumbent mayors.

First, we exploit the fact that Italian municipalities do not all vote in the same years due to an exogenous structure of staggered elections to identify the impact of the timing of municipal elections on the trajectory of a number of local budget variables (Alesina and Paradisi, 2017; Bonfatti and Forni, 2017; Repetto, 2018; Revelli, 2019). Second, since we know the exact day of the year when municipalities make their decisions on the local income tax rate – one of their main sources of revenues – we test if the timing of that crucial fiscal decision is affected by the exogenously set date of the election. Third, we study the role of social capital in fiscal policy-making by exploiting the annual recurrence of traditional religious events (Patron Saint days). In particular, we investigate whether the timing of those celebrations, that can be interpreted as temporary boosts to the citizenry's perception of the common values of the polity, has an influence on the timing of fiscal decisions. Finally, we investigate whether the concurrence of elections and Patron Saint day celebrations affects the process of selection of mayoral candidates. More specifically, the final contribution of the paper is to test the hypothesis that the increased sense of community that is observed in the proximity of traditional celebrations spills over onto concomitant mayoral elections, lowering the ideological content of mayoral races and inducing the electorate to switch from private value to common value voting. In the presence of a higher sense of common values, voters

would be more likely to cross ideological party lines and converge towards higher valence candidates.

Our results can be briefly summarized as follows. First, our empirical analysis confirms the existing evidence of a political budget cycle characterized by pre-electoral fiscal expansion and post-electoral austerity. Using a novel panel dataset of yearly budget variables (2007-2015), we find that the indicators of fiscal effort fall before the elections and increase after them, while municipal budgets deteriorate before the elections to improve thereafter. Second, by exploiting the precise dates when municipal councils make their annual income surcharge rate-setting decisions, our empirical analysis provides original evidence that the probability to raise the local income tax rate is significantly higher during post-electoral than during pre-electoral months. As regards the effect of Patron Saints' days, it turns out that local income tax-setting decisions are more likely to be scheduled far from celebration periods. This novel evidence is compatible with the idea that those events provide temporary but sizeable shocks to the connectedness, participation, and trust within a community, inducing incumbents to schedule potentially disruptive fiscal decisions to less sensitive times. Finally, we explore the consequences of the timing of electoral and religious events on the selection of mayors: when elections happen to occur concomitantly with traditional religious celebrations, and particularly during the weeks preceding the Patron Saint day, the elected mayors of those localities tend to be characterized by milder ideological affiliation and higher indicators of valence. This result corroborates the hypothesis of a positive albeit temporary impact on the cohesion and common-value thinking of a community of the concurrence of sacred (Patron Saint day) and profane (election day) events.

The rest of the paper is organized as follows. Section **2** contains a literature review and discusses the possible mechanisms at work. Section **3** illustrates the institutional background of the municipal level of government in Italy. Sections **4** studies the impact of the calendars of mayoral elections and of Patron Saint day's celebrations on the timing of local fiscal decisions, while Section **5** examines their combined influence on the selection of mayors. Section **6** concludes.

2. Existing empirical evidence on political budget cycles

Most of the early empirical research on political budget cycles has made use of national or state/regional level data. Evidence of political budget cycles in the aggregate balance has been found in OECD economies (Alesina et al. 1997), in larger samples including both developed and developing countries (Persson and Tabellini, 2002; Shi and Svensson, 2006), as well as in new democracies (Brender and Drazen, 2008). Khemani (2004) provides evidence that Indian states spend more on public investment before

elections while they cut current spending, leaving the overall balance unchanged. Using monthly regional fiscal instruments and regional governor elections in Russia, Akhmedov and Zhuravskaya (2004) find evidence of a significant budget cycle in public spending and its composition, and of the cycle decreasing with the level of democracy, transparency and media freedom. Kneebone and McKenzie (2001) use data on elections in Canadian provinces, and find that spending in highly visible areas (schools, roads and hockey rinks) tends to increase in election years. Galli and Rossi (2002) provide support of political cycles in health care, education and road construction spending in election years using German state data.

In spite of long-standing difficulties in accessing reliable budgetary data at the sub-national level, the empirical literature on the existence of political budget cycle at the municipal level has been growing in the most recent years. Early work by Veiga and Veiga (2007) offered consistent evidence of a local political budget cycles in Portuguese municipalities. Foucault et al. (2008) show evidence of opportunistic behavior of local French municipalities, that raise all categories of public spending before the elections. Drazen and Eslava (2010) found evidence of a change in the composition of expenditures towards the most visible to voters before the elections using data on Colombian municipalities. Dahlberg and Mork (2011) analyze municipalities in Sweden and Finland and find election year effects in local public employment, in the sense that municipalities hire more full time employees in election years. Sakurai and Menezes-Filho (2011) use Brazilian municipal data to show evidence of an increase in total and current expenditures and a decrease in investments, local tax revenues, and budget surplus in election years. Foremny and Riedel (2014) use data on German municipalities and examine whether the timing of elections affects tax policy choices, finding evidence of a political cycle in terms of a cut of the local business tax rate prior to elections. Interestingly, Aidt and Mooney (2014) provide evidence that political budget cycles did not start in modern times using data on different suffrage regimes in London metropolitan boroughs before the Second World War. They find tax cuts and savings on administration costs in election years under a taxpayer suffrage regime, and an increase in capital spending under a universal suffrage regime. Finally, Klarin (2019) tests for the presence of election cycles within the budget composition in Swedish municipalities, finding that local governments increase expenditures that are visible to voters in election years.

As far as Italian municipalities are concerned, Alesina and Paradisi (2017) show that incumbent mayors set lower real estate tax rates when close to elections, and Repetto (2018) reports evidence that the introduction of an obligation to disseminate financial information by Italian

municipalities had the effect of smoothing the electoral cycles in municipal investment spending.

3. Institutional background

The municipal level of government in Italy includes over 8,000 authorities. The average population size is of around 7,000 inhabitants, and the number of cities above 100,000 inhabitants is only around 40, just two of them exceeding one million residents, with more than half localities having less than 3,000 residents. Elections for municipal governments (local council and mayor) take place every five years, with direct election of the mayor in a single or dual ballot depending on resident population size. Localities with more than 15,000 inhabitants have a runoff stage among the two most voted candidates if none gets more than 50% of the votes in the first stage. Voters can express a vote for a mayor candidate as well as for a councilor candidate. Two thirds of the council seats are assigned to the councilor candidates that are typically grouped in a list supporting the mayor that is elected. Voting is formally mandatory for all aged above 18, though no sanctions exist for abstainers. The electoral schedule across the country is staggered, meaning that several elections occurred in each of the years that we consider here, as shown in Table 1.

As a general rule, all municipal elections ought to be held simultaneously every five years to replace the mayor, the municipal government, and the council. The staggered timing of the elections is the product of events having occurred over the past 70 years. Indeed, despite almost all Italian municipalities voted for the first time in 1946 after the end of World War II and the restoration of democracy, in many of them the process of periodic renewal of the municipal councils did not follow the regular 5 years. Terms of office of various length can be due to a number of circumstances: break-up of the coalition supporting the mayor in the local council for political reasons; resign, death, or serious impediment of the mayor; merge of the municipality with other municipalities; corruption episodes, suspected mafia presence in the council, excessive budget deficits, or other violations of the law. All those circumstances force the municipality to early elections by decree of the Minister of Internal Affairs. The exact day of the election is chosen each year by decree of the Minister of Internal Affairs in the period 15 April to 15 June in case the mayor ends in the first semester of the year (or within the same time-span of the subsequent year in case the term of the mayor ends in the second semester of the year). The date has to be made public no later than 55 days from the day of the election, and there is no possibility of negotiation with the Ministry of Interior on this issue. The day of the elections does not depend on the area/region where the municipality is located.

[Table 1 around here]

Municipal governments are in charge of a number of services including urban public transport, road maintenance and cleaning, waste collection and management, water and sewer services, environmental monitoring and protection, planning and zoning. Their own revenues are mainly constituted by a local property tax and a surcharge on the national personal income tax. The local property tax was introduced in 1993 (*Imposta Comunale sugli Immobili*). At the time of its introduction, municipal governments could set a flat tax rate (between 0.4% and 0.7%) on the cadastral values of all properties situated within the municipal boundaries (domestic, commercial, industrial). The local government had the chance of granting partial tax base exemptions and rate reductions for properties devoted to particular uses (main residence or religious destinations).

The municipal income surcharge was subsequently introduced nationwide in 1999 as a further step in the direction of granting local governments a wider degree of own fiscal autonomy and to reinforce the process of fiscal decentralization that started in 1993 with the introduction of the local property tax. The municipal income surcharge has since represented an important source of revenue for municipal governments, amounting to around 20-25% of total own tax revenues. Since the tax base is computed according to a comprehensive net ability to pay principle that includes income from all types of labor (employees, pensioners, self-employed, and non-incorporated business alike) and capital (real and financial assets), the tax is due by the vast majority of residents and is therefore highly visible and salient.

At the time of its introduction, the municipal income surcharge was restricted to be a flat rate on an identical tax base as the national personal income tax, with no low-income exemptions. The tax rate had to be set with a maximum of 0.5%, with year-to-year changes not exceeding 0.2%. Starting from 2006, the upper tax limit was lifted to 0.8% to allow local governments extra sources of autonomous revenue raising capacity during a period of state retrenchment and falling grants. Finally, in 2011 the national government made the local income surcharge more flexible by allowing municipalities to establish progressive local income surcharge schedules with rising income tax rates in accordance with nationally set income brackets. An increasing fraction of municipalities exploited this larger autonomy and moved from a proportional to a progressive local surcharge schedule over time, from around 14% in 2011 to 35% of them in 2015.

We collected data on municipal elections held from 2007 to 2015 from the Italian Ministry of Interior that manages and keeps detailed records of all municipal elections in general law Italian regions, or around 90% of all local elections. Data on budget indicators of municipalities are

from the national statistical office (ISTAT). Municipal local income surcharge data as well as the dates when municipalities deliberate the surcharge are available from the Department of Finance of the Italian Ministry of Economy and Finance (<http://www1.finanze.gov.it>). Finally, to complete the dataset, we have collected information on the municipality Patron Saints Days from the Italian Municipality database (<https://www.databasecomuni.it/>).

4. Empirical analysis

4.1 Budget cycles

First, we explore whether the exogenously fixed calendar of mayoral elections occurring every fifth year according to a staggered electoral schedule across the about 8,000 Italian municipalities has an influence on the trajectory of annual municipal budget data during the years 2007 to 2015. We analyze the following municipal budget variables that might be manoeuvred strategically by incumbents (see Table 2 for descriptive statistics):

- 1) *Degree of financial autonomy*, defined as the ratio of revenues from taxes, fees and charges over total revenues;
- 2) *Degree of taxation autonomy*, defined as the ratio of tax revenues over total revenues;
- 3) *Budget surplus* as a percentage of total revenues;

[Table 2 around here]

In line with the political budget cycle theory, we expect those three budget indicators to fall as elections approach due to incumbents' incentive to implement an expansionary fiscal policy of low fiscal effort and large public expenditures, and to recover after the elections. In particular, to recover the effects of the timing of mayoral elections on the trajectory of these municipal budget indicators, we estimate by OLS the following panel data equation after taking deviations from municipal means:

$$Y_{i,t} = \gamma_i + \delta_t + \sum_d \beta_d E_{i,t+d} + \varepsilon_{i,t} \quad (1)$$

where $Y_{i,t}$ is the budget indicator in municipality i and time t , γ_i is a time-invariant municipality-specific effect reflecting the social and economic environment (e.g., the quality of institutions) in which elections take place

and is removed by de-meaning, δ_t is a year effect that is common to all localities, and $\varepsilon_{i,t}$ is an i.i.d. error term. $E_{i,t+d}$ is a dummy variable that equals 1 if an election is scheduled in municipality i at time $t+d$, with $d = \{+1, +2, +3, +4\}$. The vector of coefficients of interest from equation (1) is β_d measuring the impact of the distance in years of a given year t from the year of the election on the budget variable Y .

Figures 1 to 3 plot in a graph the estimated β_d coefficients, along with their 95% confidence intervals, from equation (1) for the three budget indicators discussed above. The β_d coefficients, summarized in Table A1 in Appendix A, are almost always estimated to be significantly different from zero, pointing to an impact of the timing of elections on budgetary indicators on top of the common macroeconomic effects that the empirical model controls for through the year dummies δ_t . In addition, the graphs are generally compatible with the hypothesis of opportunistic incumbents' behavior leading to an election-driven budget cycle.

[Figures 1-3 around here]

The indices of revenue-raising effort of municipal governments such as financial autonomy (Figure 1) and taxation autonomy (Figure 2) fall before the elections and rise after the elections, peaking around the second year after the elections and declining thereafter. The budget surplus (Figure 3) improves after the elections and in the subsequent three periods, and deteriorates when the next election approaches.

4.2 The timing of local income surcharge rate decisions

While the evidence emerging from the previous section is suggestive of the existence of an election-driven budget cycle, the fact that municipal elections are usually held in late Spring or early Summer coupled with the use of annual budgetary data might mask the most interesting phenomena of opportunistic policy manipulation that take place *within* an election year.

Ideally, one would like to observe how incumbent governments behave during the months, weeks, or maybe even the days immediately preceding and following an election. This is not possible in general due to the fact that budgets are made for the entire financial year that in most instances coincides with a calendar year. However, we are able to investigate this issue further because we know the exact day of the year when each local government calls a council meeting to make its annual decision about the local income tax. Every year, each government has to decide whether to make no changes with respect to the previous year's tax rate, whether to introduce a positive income surcharge rate if they have never done so in the past, or whether to make changes to the existing rate. During the period we observe, most of the instances of changes to the local

tax rates implied rising average rates in response to state retrenchment and reductions in grants as well as to growing spending needs.

In principle, each municipality can make its decision on its personal income tax rate any time of the year. The fact that the fiscal decision must be made every single year while elections take place once every five years in a staggered way makes it possible to identify the impact of the exogenous date of the elections on the timing of the fiscal decision by using municipalities not having elections in those years as controls.

Consider first the distribution over the 365 days of a calendar year of the occurrences of the municipal decisions on the income tax rate for all authorities that faced an election during that year. Figure 4 reports the distribution of the timing of the municipal council meeting raising the income tax rate in terms of the distance (in days) from the day when the mayoral election within the same year takes place. Positive figures on the horizontal axis correspond to tax increases made after the election day, negative figures correspond to tax increases made before the day of the election, and zero corresponds to the instances where the decision to increase the local income tax was made the very same day of the mayoral election.

[Figure 4 around here]

First, Figure 4 clearly shows that tax rate increases tends to be clustered after the date of the election (to the right of zero). Tax rate increases are virtually absent in the couple of weeks immediately following the electoral week due to a physiological technical lag between the election and the official settlement of the new mayor and council. The peak of fiscal decisions tends to occur during the subsequent weeks. Finally, there are few sparse tax rate increase decisions during the weeks leading to the vote, but most authorities appear in general to procrastinate to the months following the election, with a second peak of fiscal decisions occurring around three to four months after the elections.

A possible rationalization of the phenomenon emerging from Figure 4 could be the combination of the facts that most authorities vote in late Spring/early Summer and of a physiological widespread behavior of municipalities due to recurrent nationwide holidays and established routines. To exclude such 'seasonal' explanation of the timing of fiscal decisions, Figure 5 shows the distribution of the timing of tax rate increases during the 365 days of the calendar year for municipalities not having election in that year (left figure) and for those having an election (right figure).

[Figure 5 around here]

While Figure 5 points to some role of seasonality (virtually no fiscal decisions in January and August in either of the graphs), the difference between the patterns of behavior of authorities having or not having elections is impressive. In most cases, the latter make their fiscal decisions in the first half of the year, with peaks in late March and June, before the summer break. On the other hand, most authorities facing elections in that year – with elections typically occurring in late Spring/early Summer – postpone the fiscal decision to ‘safer’ times, towards late July or even Fall (mostly towards the end of September).

We can indeed use the above information to estimate whether the probability of scheduling a municipal fiscal decision at a certain time of the year is affected by the exogenously determined dates of mayoral elections. We estimate the following equation, where for tractability we take the time-unit of observation to be the week of the year when the fiscal decision in a given municipality is made:¹

$$D_{i,w,t} = \gamma_i + \tau_w + \delta_t + \theta Z_{i,w,t} + \varepsilon_{i,t} \quad (2)$$

where, in the basic specification, $D_{i,w,t}$ is a binary variable taking the value 1 in week $w=1,\dots,52$ if the municipal council of locality i makes a decision about the local income surcharge rate in that week of year t , and 0 otherwise. A possible explanation for the postponement of the decision about the local income tax could be in terms of “political etiquette”, in the sense that incumbents might refrain from making important fiscal decisions in order to leave them to the newly elected government. Therefore, we also estimate equation (2) by letting the dependent variable equal 1 if the council decides to increase the municipal income tax rate, because this allows us in principle to better verify the hypothesis that mayors opportunistically postpone unpopular tax increases to after the elections. However, due to the complex and flexible structure of the Italian municipal income surcharge (with either flat or progressive rates, coupled with variously defined exemptions and no tax areas), tax increases or decreases cannot always be univocally identified. As an approximation, we label as tax increases all instances where a municipality raised its top marginal income tax rate from a year to the next.²

As before, γ_i is a time-invariant municipality-specific effect, while τ_w and δ_t are week and year effects, and Z is a ‘before-the-election’ dummy. In

¹ Using daily data would imply managing a sparse dataset with over 25 million observations.

² While complex policy changes having heterogeneous impact on taxpayers do occur in the dataset, the cases of municipalities moving over time to schedules with lower statutory marginal tax rates are extremely rare.

particular, to test if the proximity of an election makes the fiscal decision more or less likely, we start by letting Z equal 1 in all calendar weeks that precede the day elections are held in a municipality, and subsequently experiment with shorter time spans (12, 8, and 4 weeks preceding the election week). Clearly, the binary indicator Z takes on value zero in all the weeks of the years where no election is scheduled.

The estimation results of equation (2) are reported in Table 3. The left panel of the table considers all municipal decisions alike, while the right panel restricts the analysis to the instances where the municipal council actually made a decision to raise the top income tax rate. The estimation results in Table 3 are from Probit and Logit models in Columns A-E and B-F respectively, while the estimation results of a linear probability model (LPM) are reported in Columns C and G. Finally, Columns D and H report estimates of the LPM after taking deviations from municipal means.

[Table 3 around here]

In all instances, the empirical evidence suggests that the timing of the elections plays a significant role in the scheduling of the tax rate-setting decision by incumbent mayors. The results are robust to the choice of the width of the before-the-election window, though the estimated coefficient appears to be increasing in absolute value with respect to the length of the before-election period that is considered. Both tax rate decisions in general and tax rate increases in particular are significantly more likely to be made after than before the elections, with the effect being stronger and more precisely estimated in the latter case. The probability of making a decision about the local income tax rate during the weeks preceding the election is lower by 0.10 to 0.20 percentage points relative to far-from-election weeks, while pre-election tax rate increases are less likely by 0.70 to 0.80 percentage points. Given a baseline probability of making an increase in any given week of the year of around two percentage points (or $1/52$), this implies that the probability of raising the local income tax rate during post-election weeks is almost twice as large as during the weeks preceding the elections.

4.3. Patron Saint days

We turn now to testing the role of social capital in the timing of fiscal policy-making. In particular, we aim at ascertaining if the decisions about the local income tax rate are more or less likely to be slated in the proximity of events – like traditional celebrations of Patron Saints – that can be believed to foster the degree of social participation, cohesion and connectedness of the polity. In fact, given that these widespread annual celebrations bring members of a community together by praying, singing, dancing, cooking,

and possibly discussing communal issues, they might have the effect of reinforcing peoples' sense of community.

In terms of the impact of the timing of these celebrations on local fiscal policy-making, one could expect, on the one hand, that any tax hike that is decided by the incumbent government under those circumstances will tend to have an amplified echo and could possibly generate a stronger than usual opposition. As a result, incumbents would program potentially disruptive local tax decisions to a different time of the year. On the other hand, it could be argued that citizens may have less time to monitor what local governments are actually doing because they are too involved in the preparation of the celebrations. In other words, there might be a '*panem et circenses*' effect, with incumbents possibly trying to take advantage of the electorate's distraction to enact the potentially most unpopular fiscal determinations around those times (Atkinson and Fowler, 2014).

In order to explore this issue in further depth, we exploit the fact that Roman Catholic churches are widespread in Italy, and bear long-standing and deeply rooted traditions of veneration of thaumaturgic figures that are believed to protect local communities. Typically, each church, or even parish, has its own Patron Saint day, usually corresponding to the day of the year the saint died, often several centuries earlier. This implies that the particular time of the year local celebrations take place in a given community is virtually random, thus constituting the ideal circumstances of a natural experiment generating a temporary shock to a community's social capital.

Figure 6 shows the distribution of Patron saint days across the over 8,000 Italian municipalities. Despite some clustering during the Summer, Patron Saint days are observed throughout the year.

[Figure 6 around here]

Figure 7 reports instead the frequency of municipal decisions on the local income tax rate increase in terms of the distance of the day the fiscal decision is made by the local council relative to the Patron Saint day. Clearly, 0 on the horizontal axis in Figure 7 corresponds to the circumstance where the decision on the local income tax rate exactly coincides with the day of the Patron saint day in that locality, while positive (negative) figures correspond to fiscal decisions made after (before) the Patron Saint day.

[Figure 7 around here]

No clear-cut pattern emerges from Figure 7, with tax rate changes being observed in large numbers both during the months preceding and

following the Patron Saint day. To shed more light on this issue, we estimate equation (3) below to find out if the probability of having a fiscal decision in a given week of the year is affected by the distance of that week from the Patron Saint celebration's week:³

$$D_{i,w,t} = \gamma_i + \tau_w + \delta_t + \lambda S_{i,w,t} + \varepsilon_{i,t} \quad (3)$$

where $D_{i,w,t}$ is a binary variable taking the value 1 if the municipal council i raises its local income surcharge rate in week $w=1, \dots, 52$ of year t . As before, γ_i is a time-invariant municipality-specific effect, while τ_w and δ_t are week and year effects, and S is a 'before-the-Patron-Saint-day' dummy. In particular, we start by letting S equal 1 in all calendar weeks that precede the day the Patron Saint celebrations are held in a municipality (from the first week of January to the week just preceding the Patron saint day's week), and subsequently experiment with shorter time spans (12, 8, and 4 weeks preceding the Patron Saint day celebrations).

The estimation results of equation (3) are reported in Table 4. As in Table 3, the left panel considers the timing of all municipal fiscal decisions, irrespective of whether the council decided to change the tax rate or not, while the right panel focuses on the instances where the municipal council actually decided to augment the income tax rate. Columns A-E and B-F report the estimation results of Probit and Logit models respectively, while Columns C-G and D-H show the estimation results of LPM with random or fixed municipal effects.

The empirical evidence suggests that the decisions on the local income tax rate are more likely to be scheduled after the local Patron Saint celebrations, thus running against the hypothesis that politicians might try to take advantage of the distraction caused by the celebrations. The result holds in particular as far as tax rate increases are concerned, irrespective of the time window that is considered, suggesting that the social capital accumulated during the religious event might contribute to make subsequent redistributive policies more acceptable. The probability of making a decision about the local income tax rate during the weeks preceding the local Patron Saint celebrations is lower by 0.04 to 0.05 percentage points, while pre-celebration tax rate increases are less likely by 0.10 to 0.20 percentage points. Given a baseline probability of 2% of making a tax increase in any given week, these estimates suggest that the likelihood of observing a local income tax rate increase is up to 10% higher after the local Patron Saint day than before it.

³ Again, for tractability, the time-unit of analysis is the week of the year the Patron Saint day in a given locality happens to fall into.

[Table 4 around here]

Finally, Table 5 reports estimation results of an equation that has a binary indicator equaling 1 in week w of the year if a fiscal decision is made exactly in that week as dependent variable, and dummy variables indicating the distance from both the day of the election days and of the Patron Saint.

[Table 5 around here]

Table 5 confirms the results obtained above, namely that tax rate changes are less likely to be observed either in the proximity of an elections or in concomitance with local traditional celebrations. In general, the effect of the timing of mayoral elections is estimated to be larger and more ubiquitous than the effect of the timing of the Patron Saint celebrations, that appears to be limited to tax rate changes taking place in the immediate vicinity of the feast.

4.4. Concurrence of elections and Patron Saint days

The empirical analysis proposed so far offers evidence in favor of the hypothesis that municipal governments are unwilling to make the crucial decision about the local income tax rate on the eve of an election or of a Patron Saint day celebration. One could wonder at this point whether and how the two sets of incentives might interact with one another, and if the presence of correlation between the timing of sacred and profane events could make separate identification of the two respective incentives problematic. In order to address this issue, first, we check whether and how Patron Saint Days correlate with election days by computing the coefficient of correlation between the ordinal number of the week of the year when a municipality holds a mayoral election and the ordinal number of the week of the year when it holds its Patron Saint Day celebration. The correlation coefficient takes a small and insignificant value of around +0.1, thus suggesting that separate identification of the timing of the two events on the timing of tax rate decisions does not pose serious problems from a purely econometric point of view.

Second, in order to have an intuitive visual representation of the potential interaction between the dates of the elections and of the religious celebrations, Figure 8 plots the time pattern of municipal income tax increases relative to election days (Figure 4) conditional on the timing of Patron Saint Days relative to the timing of elections. Each of the four graphs in Figure 8 (A, B, C, D) distinctly displays the density of municipal income tax increases relative to the date of the election whether (right portion of each graph) or not (left portion of each graph) Patron Saint day celebrations occur concurrently with local elections. Concurrence of the two dates is allowed to go from an interval of four weeks (Figure 8, A) to an interval of sixteen weeks (Figure 8, D). The visual evidence from Figure 8 is pretty clear,

and supports the idea that the tax rate increase decisions tend to be clustered after the date of the election, irrespective of whether or not Patron Saint Day celebrations are held concomitantly.

[Figure 8 around here]

Finally, we estimate a more general specification of equation (3) that allows the probability of changing (raising) the tax in a certain week of the year to be affected by two dummy variables picking the distance of each calendar week from the week of the election and from the week of the Patron Saint day celebration, as well as by the interaction between those variables. Indeed, the presence of the interaction term allows the dependence of the probability of a fiscal decision on the distance from the day of the election (from the Patron Saint day) to be different in far-from-Patron-Saint-day (far-from-elections) periods than in periods that are close. Since the probability of making a fiscal decision in a given week depends in turn on its expected marginal cost in terms of loss of popularity, the impact of the concomitance of those events on such costs depends on how it affects the sensitivity of voters to fiscal issues, and how such sensitivity translates into opposition to taxes. In fact, it seems unclear a priori whether one should expect the presence of one event to exacerbate or mitigate the impact of the other. Exacerbation would occur if positive shocks to social capital further raised voters' 'fiscal sensitivity' (interpretable as a continuous variable) on top of what is produced by the coming election, and if the marginal cost of raising taxes were an increasing function of voters' fiscal sensitivity. In those circumstances, the fact that the marginal cost of raising taxes before elections is higher than usual would induce incumbents to be even more cautious than they are in ordinary circumstances (a positive interaction effect). On the other hand, if the sensitivity of voters to taxes can be interpreted as a discrete 'alert' status that is switched on either by the election or by the Patron Saint day, the incentives generated by the two recurrences would substitute one for the other (a negative interaction effect).

The results of estimation, summarized in Table 6, show that the two distance dummies have a highly significant independent impact on the timing of the fiscal decision⁴. However, no statistically significant influence emerges in general from their interaction, suggesting that incumbents behave in the same fiscally prudent way before an election (Patron Saint day) irrespective of whether the Patron Saint day (election) is approaching or is safely over.⁵

⁴ Due to the difficulty in interpreting marginal effects of interactions from non-linear models, Table 6 reports the estimates of linear models only.

⁵ Further specifications of Models 2-4 that include an "After Patron Saint day" dummy and the associated interaction term return no additional statistically significant coefficient estimates. The results are available on request.

[Table 6 around here]

5. Timing of elections, social capital and the selection of candidates

The last part of the analysis turns to the investigation of whether the interaction of the calendars of mayoral elections and of Patron Saint day celebrations – calendars over which local authorities have no control – has an influence on the selection of mayors. Indeed, it can happen by pure chance that the date set for municipal elections by the Ministry of the Interior in a given year overlaps with the spell of religious celebrations for the local Saint in a number of municipalities. Patron Saint celebrations might increase the sense of community for several days or even weeks before and after the Patron Saint day.⁶ Neighborhood committees are involved in the organization, and public gatherings can be the occasion of discussing political and municipal administration issues. If traditional celebrations raise the popular sense of community, cohesion and responsibility for the public good, one could expect that holding mayoral elections in proximity of the Patron Saint day celebrations might lead to the selection of mayors that are significantly different from those that would be elected if the elections had been held at other times.

In fact, religious celebrations might influence the selection process of mayors by affecting both how people vote and whether they turn out to vote. If we consider social capital as “features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated actions” (Putnam et al., 1993), then social capital could be a correct interpretation of what is happening in the days around the Patron Saint day celebrations. Therefore, community activities that increase trust and connectedness actually lead to collectively beneficial behavior and as a consequence improve the quality of democracy (for instance, through electoral participation and outcomes). When reviewing the communities which succeed in generating social capital, Putnam and Feldstein identify dinner parties, picnics, music, local art and dancing as important sources of community engagement and trust (Putnam and Feldstein, 2003). During Patron Saint day celebrations, citizens may become connected to one another by praying together, engaging in casual conversation, eating, drinking and having fun.

A deeper sense of community may lead to higher voter turnout if the utility that citizens receive from performing their civic duties, especially if

⁶ Religious activities sometimes go along with folkloric representations and art and music performances for weeks, and often require a long preparation. Those events can involve carrying a statue of the saint in procession, historical reenactments, dancing, flag waving, singing and concluding with firework display.

in accordance with a social norm, is taken into account when making the decision to participate. Social pressure might play an important role as a voter mobiliser being an incentive to political participation (Gerber et al. 2008; Nickerson, 2008). Social capital may reduce information costs about politics (Fiorina, 1990) as well as make people more careful about benefit to others (Fowler, 2006) increasing the likelihood to vote. On the other hand, a negative effect of social capital on turnout could be due to the fact that voters derive satisfaction from the act of voting (Riker and Ordeshook, 1968), and a stronger sense of identity provides an alternative way of personal satisfaction to citizens. Community activities also tend to be highly time consuming (Rupasingha et al. 2006). As a consequence, rational individuals will have less time to form an opinion about the elections and to visit the polling places, thus reducing political participation (Atkinson and Fowler, 2014).

Finally, within a theoretical framework where voting yields expressive benefits that are driven both by a position issue (ideology) and by a common value (valence of candidates), holding the elections in circumstances that represent temporary boosts to a community's social capital can tilt the selection mechanism in favor of the most valent candidates (Lo Prete and Revelli, 2017). The idea (formalized in Appendix B) is that voters receive signals before the election about the valence of candidates, and those signals may or may not match their ideological views. In the latter case, if the expressive benefit of voting by valence is larger than the expressive benefit of voting by ideology, they vote according to common values, thus accepting to cross party lines, and choose the candidate that the signal suggests to be the most valent. Consequently, holding the elections in circumstances (like Patron Saint day celebrations) that magnify the expressive benefit of voting based on the valence of candidate raises the share of individuals that go to the polls and vote according to the quality (competence or probity) of candidates, thus raising the chances that a valent candidate is elected.

We estimate the effect of concurrence of election dates and Patron Saint day celebrations on voter turnout and on the characteristics of elected mayors through the following equation:

$$v_{i,t} = \gamma_i + \delta_t + \varphi Z_{i,t} + \varepsilon_{i,t} \quad (4)$$

where $v_{i,t}$ is either the voter turnout or the valence indicator of the mayor of municipality i elected at time t . γ_i is a time-invariant municipality-specific effect, δ_t is a year effect, and $Z_{i,t}$ is a dummy variable taking value 1 if a locality's Patron Saint celebrations are held within two weeks before or after the date of the mayoral election. By doing so, we assume an increase in social capital at the municipality level in case the celebrations lie within a

four week window around the election date (for a similar approach, see Atkinson and Fowler, 2014).

By estimating the model in equation (4) we are assuming that the before-election celebration and after-election celebration have the same effects. We relax this assumption by considering a model which estimates separate coefficients for the Patron Saint Day taking place before and after the election day through the following equation:

$$v_{i,t} = \gamma_i + \delta_t + \varphi Z_{i,t} + \vartheta W_{i,t} + \varepsilon_{i,t} \quad (5)$$

where $v_{i,t}$ is again either the voter turnout or the valence indicator of the mayor of municipality i elected at time t . γ_i is a time-invariant municipality-specific effect, δ_t is a year effect, $Z_{i,t}$ is a dummy variable taking value 1 if a locality's Patron Saint celebrations are held within two weeks before the date of the mayoral election while $W_{i,t}$ is a dummy variable taking value 1 if a locality's Patron Saint celebrations are held within two weeks after the date of the mayoral election⁷. Depending on the continuous or binary nature of the dependent variable, we estimate Equations (4)-(5) either using a standard linear panel data model or using a Probit regression approach that controls for random effects.

5.1. Social capital and voter turnout

We first explore whether the temporary shock to social capital due to the local celebrations affects voter turnout. To investigate whether political participation is affected by the concurrence of election and Patron Saint days, we use turnout rates at municipal levels as a measure of political participation using data recorded by the Italian Ministry of Interior (<http://elezionistorico.interno.it>). Voter turnout is defined as the ratio of votes cast to eligible voters, being bounded by definition between 0 and 100%. Table 7 reports the average turnout rate in Italian municipalities.

[Table 7 around here]

The results summarized in Table 8 do not show any statistically significant effect on the rate of voter turnout of holding the election either within a uniform 4 weeks window (Table 8, Column A) or when allowing for different effects for holding the election 2 weeks before or after the Patron Saint day's celebrations (Table 8, Column B), thus ruling out in this context the political displacement due to the religious involvement ("less-time-to-

⁷ The few cases in which Patron Saint Day celebrations are held exactly in the day of the election have been included in the after-celebration dummy.

vote”) hypothesis.⁸ Moreover, the above results suggest that, if any, the impact of the concurrence of elections and local religious celebrations on the characteristics of elected mayors cannot be attributed to such concurrence bringing to the polls additional voters that would in ordinary circumstances have abstained. Admittedly, though, lacking information on the characteristics of the people that actually cast their votes in municipal elections, we cannot exclude that the concurrence of elections and local religious celebrations might alter the composition of the electorate that actually turns out to vote relative to the circumstances where the two events happen to be far apart, while leaving the overall rate of turnout unchanged.

[Table 8 around here]

5.2. Valence

Conditional on turning out to vote, an increase in social capital exogenously determined by the concurrence of elections and religious events might cause a move from private value (ideological) voting to common value (valence) voting. The temporary boost in voters’ perception of the common good that is observed during elections that take place concurrently as local traditional celebrations might convince voters to forego their ideological affiliation and accept to cross party lines to converge towards higher valence candidates.⁹

To proxy valence, we employ two traits of elected mayors (Table 7) that we take as proxies of their ‘competence’ (Italian Ministry of Interior, <http://dait.interno.gov.it/>): their level of education and their professional status before entering politics.¹⁰ In particular, we use the available information on mayors’ education under the common assumption that holding a college degree tends to be viewed by voters as a signal of competence (Galasso and Nannicini, 2011). We build a dummy variable (*Education*) taking the value of 1 in case the elected mayor has a bachelor or further degree, and 0 otherwise. Furthermore, we use professional experience to build a measure of valence related to occupational status of the mayor. Indeed, professional records can provide useful information being a proxy of the level of knowledge required to perform specific tasks such as leading and managing public activities. Following the existing

⁸ Similar results emerge when using alternative time windows.

⁹ Indeed, while we know the number of candidates and the rate of voter turnout for all elections, we can only observe a number of personal characteristics for those candidates who manage to become mayors. Therefore, we cannot answer the potentially interesting question of how concomitance of elections and traditional celebrations affects the characteristics of the pool of mayoral candidates.

¹⁰ ‘Honesty’ is more difficult to proxy because episodes of corruption or other criminal records of candidates are not available.

literature (Bordignon et al. 2013; Revelli, 2016; Lo Prete and Revelli, 2017), we use the profession of the mayor before entering politics as a proxy for her administrative skills. More specifically, we build a dummy variable (*High professional status*) taking the value 1 in case the elected mayor was employed in a distinguished profession (architects, engineers, physicians, accountants, lawyers and academics).¹¹

Table 8, Columns C and E, shows that holding municipal elections within two weeks before or after the Patron Saint celebrations has a positive and statistically significant effect on the probability that highly educated and distinguished professional status candidates are elected. This result is compatible with the hypothesis that where social capital is higher due to social activities related to traditional celebrations, it is more likely to elect a competent candidate. When we allow the effects of concurrence of sacred and profane events to be different depending on whether the election takes place before or after the Patron Saint's celebrations (Table 8, Columns D and F), we find that the positive impact on candidates' valence is driven by those municipalities that hold elections during the two weeks leading to the Patron Saint day's celebration. This result suggests that the shock to the connectedness and trust of the members of a community mostly works during the preparation of the celebrations, and it tends to fade after the celebrations are held. Finally, Columns G and H show the results of estimating the effect of the concomitance of electoral and religious dates on elected mayors' win margins. The idea is that a higher win margin can be taken as an indirect piece of evidence of voters' convergence towards valent candidates irrespective of ideological considerations (Revelli, 2016; Lo Prete and Revelli, 2017). The win margin is expressed as the logarithmic transformation of the absolute difference in votes between the top two candidates. While the win margin tends to increase somewhat in elections held shortly after the Patron saint day's celebrations, the effect is only marginally statistically significant.¹²

¹¹ We follow the classification by the Italian National Institute of Statistics (ISTAT) which identifies the level of competence needed to implement strategies at policy and institutional level such as those acquired by those working in the judicial system, universities, management of public and private companies.

¹² We also explored the possibility that the concurrence of elections and Saint day celebrations might affect political competition by broadening the number of candidates. The number of mayoral candidates in the 2007-2015 time span varies from a minimum of 1 to a maximum of 19 candidates. Races with two-digit candidates are very rare and occur only in very large cities. The estimation results do not show any significant effect of concomitance of electoral and religious events on the degree of competition for office, though (results available on request).

6. Conclusions

Based on a rich panel dataset of Italian local elections, this paper has studied the influence of the exogenously fixed calendar of Italian mayoral elections as well as of the timing of local Patron Saint Day's celebrations on the trajectory of a number of key municipal budget variables, on the timing of local income tax rate setting decisions and on the selection process of mayoral candidates. In order to separate common shocks to all municipalities from potential effects related to the electoral cycle, we take advantage of the staggered structure of local elections. Moreover, the use of within-country municipal level data makes it possible to keep cultural, institutional and economic aspects constant.

The empirical results first confirm the existing evidence of a political budget cycle, with the revenue raising effort of municipal governments falling before the elections and rising thereafter. Second, when examining the specific timing of local income surcharge rate decisions, we find that the timing of elections plays an important role: potentially costly tax rate setting decisions are more likely to be taken after the election. Moreover, we find that those crucial tax rate decisions are more likely to be made far from the period when Patron Saint Day's celebrations are held.

Finally, to rule out that procrastination of fiscal choices to after the Patron Saint Day may be simply due to politicians taking time off from their duties close to the festivities, we test whether concurrence of sacred and profane events has an impact on the selection of politicians. In fact, if local celebrations simply interfered with ordinary administrative activity without having any profound impact on a community's "social capital," or more generally on its views about the local public good, then one should expect to see no consequence on the selection of mayors when elections occur during that particular time of the year. We find evidence that the concurrence of mayoral elections and Patron Saint Day's celebrations affects the selection of mayor candidates too, particularly when the elections take place during the weeks leading to the Patron Saint day's celebrations. The results are compatible with the hypothesis that the increased sense of community, participation and social capital that accompanies the preparation of the traditional celebrations tends to lower the ideological stakes of local elections, leading rational voters to cross party lines and converge towards the candidates that are characterized by higher indicators of valence.

References

- Aidt, T.S. and Mooney, G. (2014). Voting suffrage and the political budget cycle: evidence from the London metropolitan boroughs 1902–1937. *Journal of Public Economics*, 112, 53–71.
- Akhmedov, A., and Zhuravskaya, E. (2004). Opportunistic political cycles: Test in a young democracy setting. *Quarterly Journal of Economics*, 119, 1301–1338.
- Alesina, A. and Paradisi, M. (2017). Political budget cycles: Evidence from Italian cities. *Economics and Politics*, 29, 157–177.
- Alesina, A., Cohen, G., and Roubini, N. (1997). Political cycles and the macroeconomy. Cambridge, MA: MIT Press.
- Atkinson, M.D. and Fowler, A. (2014). Social capital and voter turnout: Evidence from Saint's day fiestas in Mexico. *British Journal of Political Science*, 44, 41–59.
- Boix, C. and Posner, D. N. (1998). Social capital: Explaining its origins and effects on government performance. *British Journal of Political Science*, 28, 686–693.
- Bonfatti, A. and Forni, L. (2017). Fiscal rules to tame the political budget cycle: Evidence from Italian municipalities, IMF Working Paper 17/6.
- Bordignon, M., Gamalerio, M, and Turati, G. (2013). Decentralization, vertical fiscal imbalance, and political selection. CESifo, WP. N. 4459.
- Brender, A. and Drazen, A. (2008) How do budget deficits and economic growth affect reelection prospects? Evidence from a large panel of countries. *American Economic Review*, 98(5), 2203–2220.
- Dahlberg, M. and Mork, E. (2011). Is there an election cycle in public employment? Separating time effects from election year effects. *CESifo Economic Studies*, 57(3), 480–498.
- Drazen, A., and Eslava, M. (2010) Electoral manipulation via expenditure composition: Theory and evidence. *Journal of Development Economics*, 92, 39–52.
- Fiorina, M. (1990). Information and rationality in elections. Information and Democratic Processes (Champaign: University of Illinois Press).
- Foremny, D., and Riedel, N. (2014). Business taxes and the electoral cycle. *Journal of Public Economics*, 115, 48–61.
- Foucault, M., Madies, T. and Paty, S. (2008). Public spending interactions and local politics: empirical evidence from French municipalities. *Public Choice* 137, 57–80.
- Fowler, J. (2006). Altruism and turnout. *Journal of Politics*, 68, 674–83.
- Galasso, V. and Nannicini, T. (2011). Competing on good politicians. *American Political Science Review*, 105, 79–99.
- Galli, E., and Rossi, S.P.S. (2002). Political budget cycles: the case of the Western German Länder. *Public Choice*, 110, 283–303.
- Gerber, A., Green, D. and Larimer, C. (2008). Social pressure and voter turnout: evidence from a large-scale field experiment. *American Political Science Review*, 102, 33–48.
- Khemani, S. (2004). Political cycles in a developing economy: Effect of elections in the Indian states. *Journal of Development Economics*, 73, 125–154.
- Klarin, J. (2019). Bring Out the Steamrollers – It's Election Year Again! *FinanzArchiv*, Forthcoming, DOI: 10.1628/fa-2019-0012.
- Knack, S. (2002). Social capital and the quality of government: Evidence from the States. *American Journal of Political Science*, 46, 772–785.

- Kneebone, R., and McKenzie, K. (2001). Electoral and partisan cycles in fiscal policy: An examination of Canadian provinces. *International Tax and Public Finance*, 8, 753–774.
- Lo Prete, A. and Revelli, F. (2017). Costly voting, turnout, and candidate valence. *Economics Letters*, 158, 10–13.
- Nickerson, D. (2008). Is voting contagious? Evidence from two field experiments. *American Political Science Review*, 102, 49–57.
- Persson, T., and Tabellini, G. (2002). Political economics: Explaining economic policy. Cambridge, MA: MIT Press.
- Putnam, R., Leonardi, R. and Nanetti, R. (1993). Making Democracy Work: Civic Traditions in Modern Italy. Princeton, N.J.: Princeton University Press.
- Putnam, R. and Feldstein, L. (2003). Better together: restoring the American community. New York: Simon & Schuster.
- Repetto, L. (2018) Political budget cycles with informed voters: Evidence from Italy, *Economic Journal*, 128, 3320–3353.
- Revelli, F. (2016). Tax limits and local elections. *Public Choice*, 166, 53–68.
- Revelli, F. (2019). The electoral migration cycle. *European Journal of Political Economy*, 59, 461–482.
- Riker, W. and Ordeshook, P. (1968). A theory of the calculus of voting. *American Political Science Review*, 68, 25–42.
- Rogoff, K. (1990). Equilibrium political budget cycles. *American Economic Review*, 80, 21–36.
- Rogoff, K., and Sibert, A. (1988). Elections and macroeconomic policy cycles. *Review of Economic Studies*, 55, 1–16.
- Rupasingha, A., Goetz, S. and Freshwater, D. (2006). The production of social capital in US counties. *Journal of Socio-Economics*, 35, 83–101.
- Sakurai, S., and Menezes-Filho, N. (2011). Opportunistic and partisan election cycles in Brazil: new evidence at the municipal level. *Public Choice*, 148, 233–247.
- Shi, M., and Svensson, J. (2006). Political budget cycles: Do they differ across countries and why? *Journal of Public Economics*, 90, 1367–1389.
- Veiga, L. and Veiga, F. (2007). Political business cycles at the municipal level. *Public Choice*, 131, 45–64.

TABLES

Table 1 – Voter turnout in municipal elections

Year	Turnout	Municipalities
2007	73.57	833
2008	78.88	455
2009	76.94	4020
2010	73.00	631
2011	66.99	1259
2012	62.70	836
2013	67.54	524
2014	71.31	3874
2015	65.52	675

Notes: Turnout rate= votes/electorate; includes all municipalities for which information on at least two elections is available. Source: Ministero dell'Interno, Municipal election data.

Table 2 – Descriptive Statistics of municipal budget indicators (Mean Values)

Year	Degree of Financial Autonomy		Degree of Taxation Autonomy		Budget Surplus	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
2007	0.390	0.160	0.407	0.162	0.161	0.243
2008	0.368	0.148	0.368	0.148	0.150	0.325
2009	0.378	0.151	0.371	0.144	0.150	0.232
2010	0.382	0.153	0.376	0.146	0.150	0.239
2011	0.552	0.210	0.588	0.223	0.152	0.240
2012	0.596	0.211	0.620	0.211	0.151	0.259
2013	0.557	0.180	0.594	0.171	0.178	0.254
2014	0.606	0.209	0.649	0.181	0.251	0.317
2015	0.548	0.213	0.642	0.177	0.373	0.488

Notes: Source - Italian National Institute of Statistics (ISTAT)

Table 3 - Elections & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	FE (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Increase			
	A	B	C	D	E	F	G	H
Model 1								
Before election	-0.001*** (0.0003)	-0.0008*** (0.0002)	-0.001*** (0.0003)	-0.001*** (0.0003)	-0.008*** (0.001)	-0.008*** (0.001)	-0.006*** (0.001)	-0.008*** (0.001)
Model 2								
3 months before election	-0.001*** (0.0003)	-0.001*** (0.0003)	-0.002*** (0.0004)	-0.002*** (0.0004)	-0.007*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)	-0.009*** (0.001)
Model 3								
2 months before election	-0.001*** (0.0004)	-0.001*** (0.0003)	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.006*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.008*** (0.001)
Model 4								
1 month before election	-0.001*** (0.0006)	-0.001*** (0.0005)	-0.002*** (0.0007)	-0.002*** (0.0007)	-0.005*** (0.002)	-0.005*** (0.001)	-0.006*** (0.002)	-0.006*** (0.002)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2917863	2917863	2975076	2975076	342567	342567	392284	392284

Notes: Weekly municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 4 – Patron saint days & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Increase			
	A	B	C	D	E	F	G	H
	Model 1							
Before patron saint day	-0.0003 (0.0002)	-0.0002 (0.0002)	-0.0002 (0.0002)	-0.0004 (0.0003)	-0.0007 (0.0005)	-0.0005 (0.0004)	-0.001 (0.0006)	-0.001** (0.0009)
	Model 2							
3 months before patron saint day	-0.0004** (0.0002)	-0.0003** (0.0002)	-0.0005** (0.0002)	-0.0005** (0.0002)	-0.001*** (0.0005)	-0.001*** (0.0004)	-0.001*** (0.0006)	-0.001*** (0.0006)
	Model 3							
2 months before patron saint day	-0.0005** (0.0002)	-0.0004** (0.0002)	-0.0006** (0.0002)	-0.0006** (0.0002)	-0.0009* (0.0005)	-0.0008* (0.0004)	-0.001** (0.0007)	-0.001*** (0.0007)
	Model 4							
1 month before patron saint day	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.001* (0.0007)	-0.001** (0.0006)	-0.002** (0.0009)	-0.002** (0.0009)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2749869	2749869	2803788	2803788	323697	323697	333044	333044

Notes: Weekly municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before Patron Saint day: dummy variable=1 in all calendar weeks before the Patron Saint Day. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 5 – Elections, Patron saint days & timing of local income surcharge rate determination

	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)	PROBIT (dF/dx)	LOGIT (dF/dx)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision				Local Income Surcharge Rate Increase			
	A	B	C	D	E	F	G	H
Model 1								
Before election day	-0.001*** (0.0003)	-0.0009*** (0.0002)	-0.001*** (0.0004)	-0.001*** (0.0004)	-0.008*** (0.001)	-0.008*** (0.001)	-0.006*** (0.001)	-0.008*** (0.001)
Before patron saint day	-0.0003 (0.0021)	-0.0002 (0.0002)	-0.0002 (0.0002)	-0.0004 (0.0003)	-0.0007 (0.0005)	-0.0005 (0.0004)	-0.001 (0.0006)	-0.001** (0.0009)
Model 2								
3 months before election day	-0.001*** (0.0003)	-0.001*** (0.0003)	-0.002*** (0.0004)	-0.002*** (0.0004)	-0.007*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)	-0.009*** (0.001)
3 months before patron saint day	-0.0004** (0.0002)	-0.0003* (0.0002)	-0.0005** (0.0002)	-0.0005** (0.0002)	-0.001*** (0.0005)	-0.001*** (0.0004)	-0.001*** (0.0006)	-0.001*** (0.0006)
Model 3								
2 months before election day	-0.002*** (0.0004)	-0.001*** (0.0003)	-0.003*** (0.0005)	-0.003*** (0.0005)	-0.005*** (0.001)	-0.005*** (0.001)	-0.007*** (0.001)	-0.007*** (0.001)
2 months before patron saint day	-0.0005** (0.0002)	-0.0004** (0.0002)	-0.0006** (0.0002)	-0.0006** (0.0002)	-0.0009* (0.0005)	-0.0008* (0.0004)	-0.001** (0.0007)	-0.001** (0.0007)
Model 4								
1 month before election day	-0.002*** (0.0006)	-0.001*** (0.0005)	-0.002*** (0.0007)	-0.002*** (0.0007)	-0.005*** (0.002)	-0.005*** (0.002)	-0.006** (0.002)	-0.006*** (0.002)
1 month before patron saint day	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.0002 (0.0003)	-0.001* (0.0007)	-0.001** (0.0006)	-0.002** (0.0009)	-0.002** (0.0009)
Year dummies	YES	YES	YES	YES	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES	YES	YES	YES	YES
Obs	2749869	2749869	2803788	2803788	323697	323697	330044	330044

Notes: Weekly municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. Before Patron Saint day: dummy variable=1 in all calendar weeks before the Patron Saint Day. All observations included. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 6 – Elections, Patron saint days & timing of local income surcharge rate determination

	LPM	LPM (Fixed effects)	LPM	LPM (Fixed effects)
	Local Income Surcharge Rate Decision		Local Income Surcharge Rate Increase	
	A	B	C	D
Model 1				
Before election day	-0.002*** (0.001)	-0.002*** (0.001)	-0.009*** (0.003)	-0.011*** (0.003)
Before patron saint day	-0.0003 (0.0002)	-0.0005 (0.0003)	-0.001* (0.0007)	-0.001** (0.0009)
Before election day*Before patron saint day	0.001 (0.001)	0.001 (0.001)	0.003 (0.003)	0.003 (0.003)
Model 2				
3 months before election day	-0.002*** (0.0005)	-0.002*** (0.0005)	-0.007*** (0.001)	-0.009*** (0.001)
3 months before patron saint day	-0.0004** (0.0002)	-0.0004** (0.0002)	-0.001*** (0.0006)	-0.001*** (0.0006)
3 months before election day*3 months before patron saint day	-0.0008 (0.0009)	-0.0008 (0.0009)	0.0007 (0.003)	0.0008 (0.003)
Model 3				
2 months before election day	-0.003*** (0.0006)	-0.003*** (0.0006)	-0.007*** (0.001)	-0.008*** (0.001)
2 months before patron saint day	-0.0007*** (0.0002)	-0.0007*** (0.0002)	-0.001** (0.0007)	-0.001** (0.0007)
2 months before election day*2 months before patron saint day	0.002** (0.001)	0.002** (0.001)	0.004 (0.004)	-0.005 (0.004)
Model 4				
1 month before election day	-0.003*** (0.0007)	-0.003*** (0.0007)	-0.006*** (0.002)	-0.006*** (0.002)
1 month before patron saint day	-0.0003 (0.0003)	-0.0003 (0.0003)	-0.002** (0.0009)	-0.002** (0.0009)
1 month before election day*1 month before patron saint day	0.003 (0.002)	0.003 (0.002)	0.004 (0.008)	0.005 (0.009)
Year dummies	YES	YES	YES	YES
Week dummies	YES	YES	YES	YES
Obs	2803788	2803788	330044	330044

Notes: Weekly municipal-level data, 2007-2015. Dependent variable (Decision week) = 1 in week D=1,...,52 if the municipal council makes its decision on the local income surcharge rate in that week. Standard errors in parentheses. Before elections: dummy variable=1 in all calendar weeks before the week municipal elections are held. Before Patron Saint day: dummy variable=1 in all calendar weeks before the Patron Saint Day. All observations included. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Table 7 – Turnout and mayors' characteristics (2007-2015)

Variables	Mean	Std Dev	Min	Max	Obs
Turnout	73.176	9.631	17.694	100	12852
Education (Degree)	0.444	0.496	0	1	12852
High professional status	0.219	0.413	0	1	12852
Win margin	807.579	3074.957	0	148383	12852

Source: Anagrafe Amministratori Locali.

Table 8 – Panel data estimation results on time of election, number of candidates, mayors' characteristics and turnout

	Turnout		Education (dF/dx)		High Prof. Status (dF/dx)		Win margin	
	A	B	C	D	E	F	G	H
Patron Saint Day (four weeks window)	0.176 (0.215)		0.038** (0.019)		0.041*** (0.015)		0.099* (0.053)	
Patron Saint Day (two weeks before)		0.438 (0.283)		0.029 (0.027)		0.029 (0.022)		0.139* (0.075)
Patron Saint Day (two weeks after)		-0.036 (0.261)		0.045** (0.024)		0.050*** (0.019)		0.069 (0.067)
Candidates	0.603*** (0.044)	0.603*** (0.044)						
Win margin	-0.000*** (0.000)	-0.000*** (0.000)						
Electorate (th)	-0.000 (0.000)	-0.000 (0.000)	0.000*** (0.000)	0.000*** (0.000)	0.000* (0.000)	0.000* (0.000)	0.000*** (0.000)	0.000*** (0.000)
Age 25-24 (%)	16.004*** (4.138)	16.066*** (4.138)	-0.004 (0.358)	-0.007 (0.358)	0.613** (0.292)	0.610** (0.292)	-5.409*** (0.987)	-5.403*** (0.987)
Age 35-44 (%)	19.975*** (3.822)	20.007*** (3.822)	-2.030*** (0.300)	-2.032*** (0.300)	-1.866*** (0.238)	-1.869*** (0.238)	-2.290*** (0.824)	-2.280*** (0.824)
Age 45-54 (%)	-2.101 (3.835)	-2.073 (3.834)	-2.164*** (0.321)	-2.165*** (0.321)	-1.426*** (0.260)	-1.428*** (0.260)	-11.128*** (0.871)	-11.124*** (0.871)
Age 55-64 (%)	1.070 (3.304)	1.082 (3.303)	-1.851*** (0.266)	-1.851*** (0.266)	-1.520*** (0.214)	-1.521*** (0.214)	-9.513*** (0.728)	-9.514*** (0.728)
Age > 65 (%)	-11.229*** (2.112)	- (11.190*** (2.112)	-1.131*** (0.153)	-1.132*** (0.153)	-0.654*** (0.118)	-0.656*** (0.118)	-6.740*** (0.423)	-6.735*** (0.423)
Year & Municipality effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	11701	11701	11706	11706	11087	11087	11689	11689

Notes: Annual municipal-level data, 2007-2015. Standard errors in parentheses. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

FIGURES

Figure 1 – Degree of Financial Autonomy (Estimated β_d coefficients from equation 1)

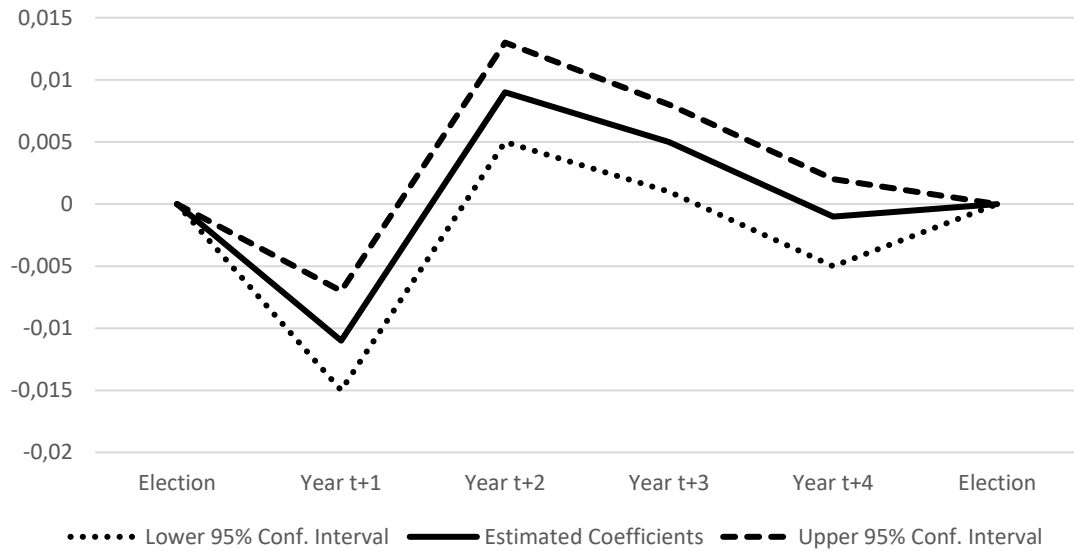


Figure 2 – Degree of Taxation Autonomy (Estimated β_d coefficients from equation 1)

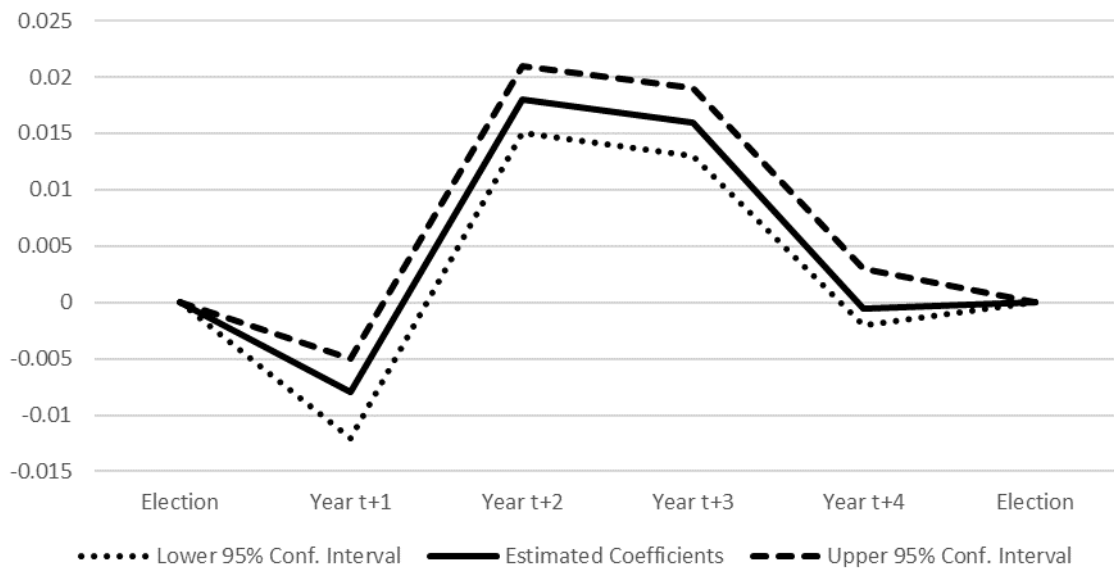


Figure 3 – Budget Surplus (Estimated β_d coefficients from equation 1)

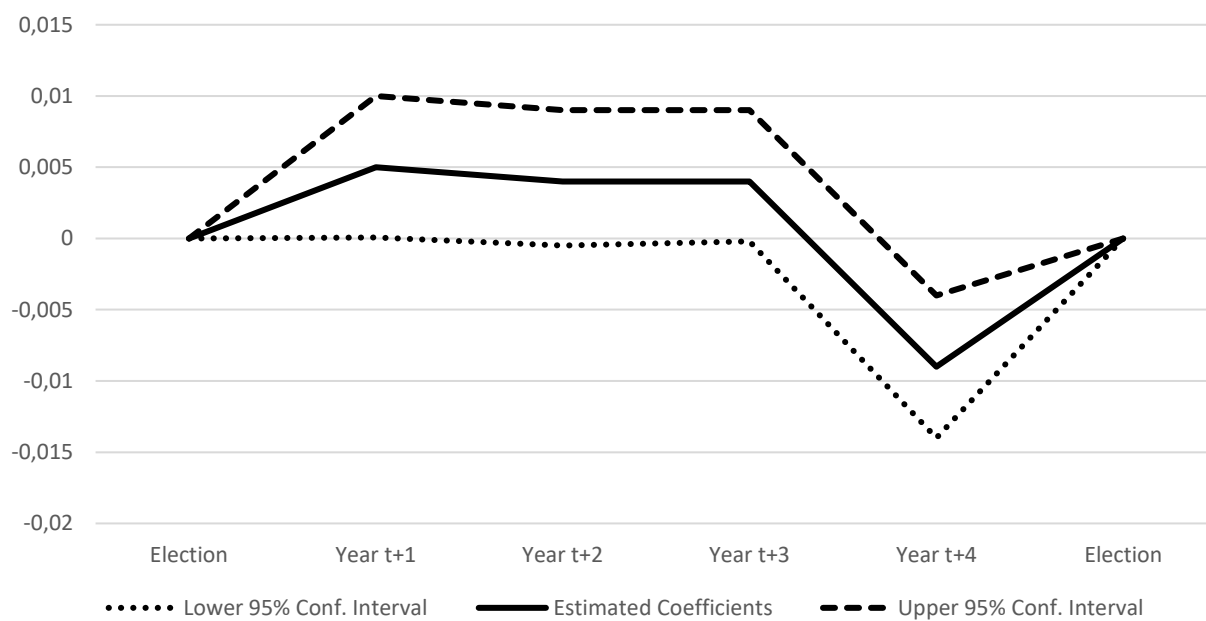
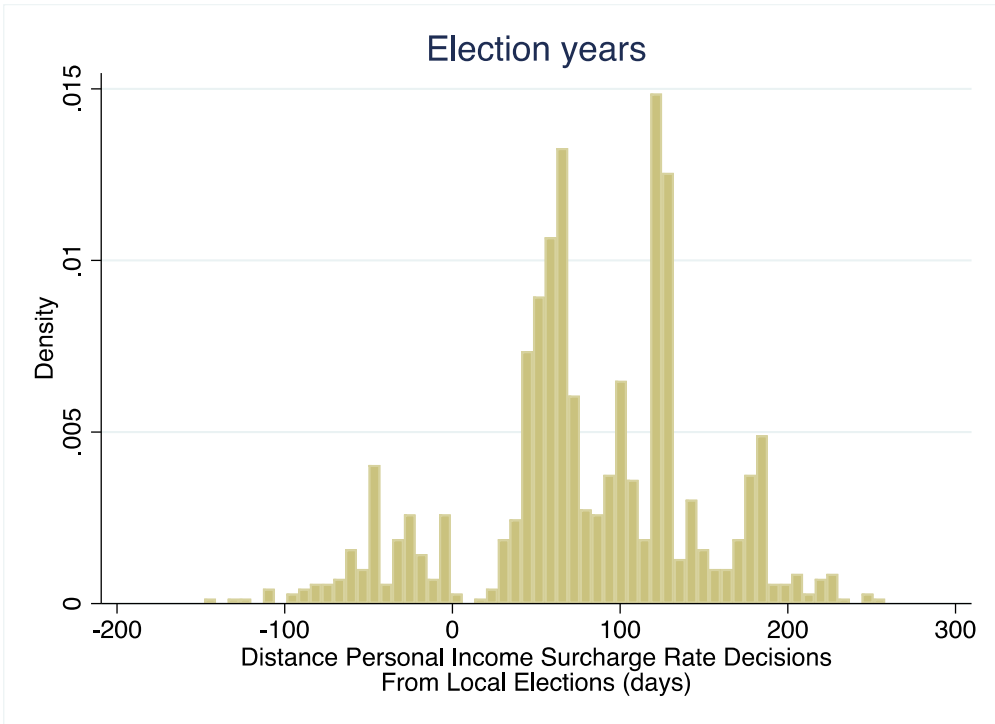
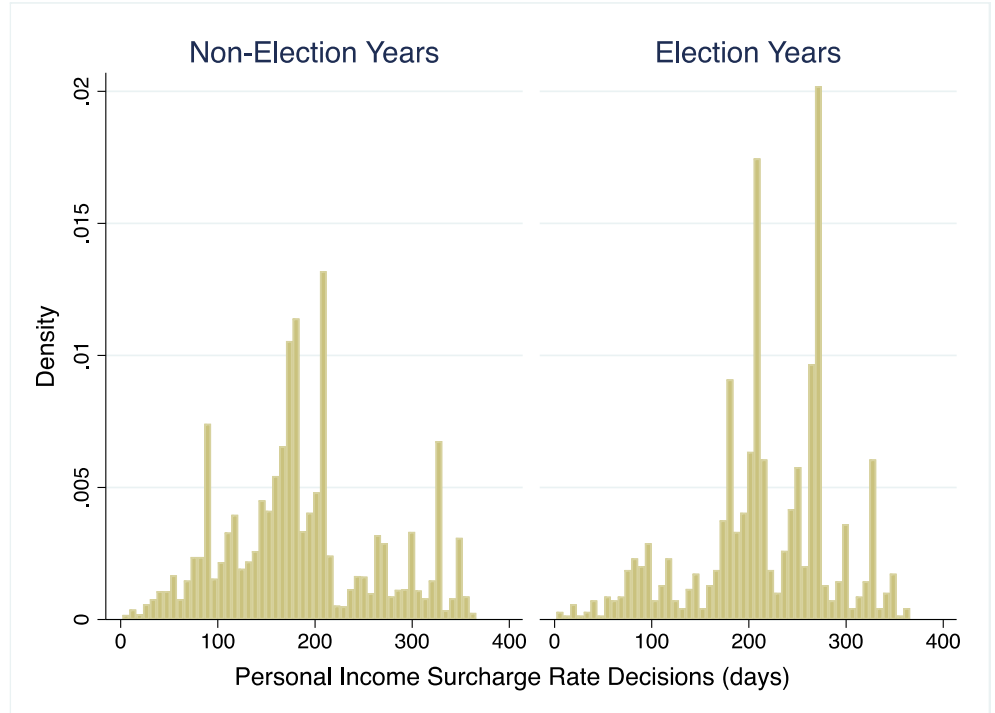


Figure 4 – Distribution of Local Income Surcharge Rate Increases with Respect to the Dates of the Elections



Note: Positive figures on the horizontal axis correspond to tax increases made after the election day, negative figures correspond to tax increase made before the day of the election, and zero corresponds to the instances where the decision to increase the local income tax was made the very same day of the mayoral election.

Figure 5 – Distribution of Local Income Surcharge Rate Increases and Local Elections



Note: Distribution of the timing of tax rate increases during the 365 days of the calendar year for municipalities not having election in that year (left figure) and for those having an election (right figure).

Figure 6 – Distribution of Patron Saints Days

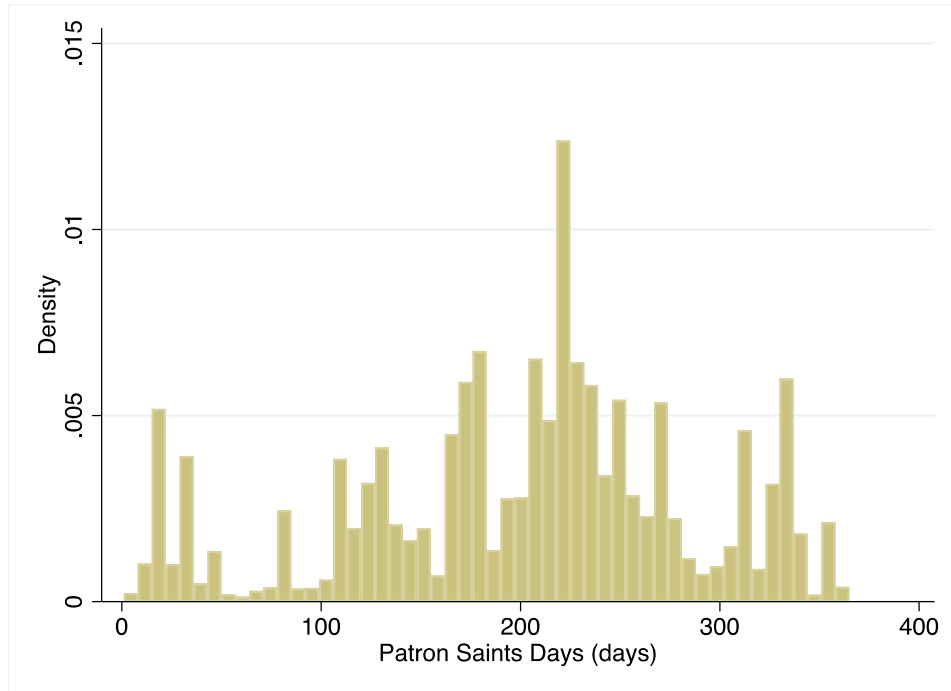
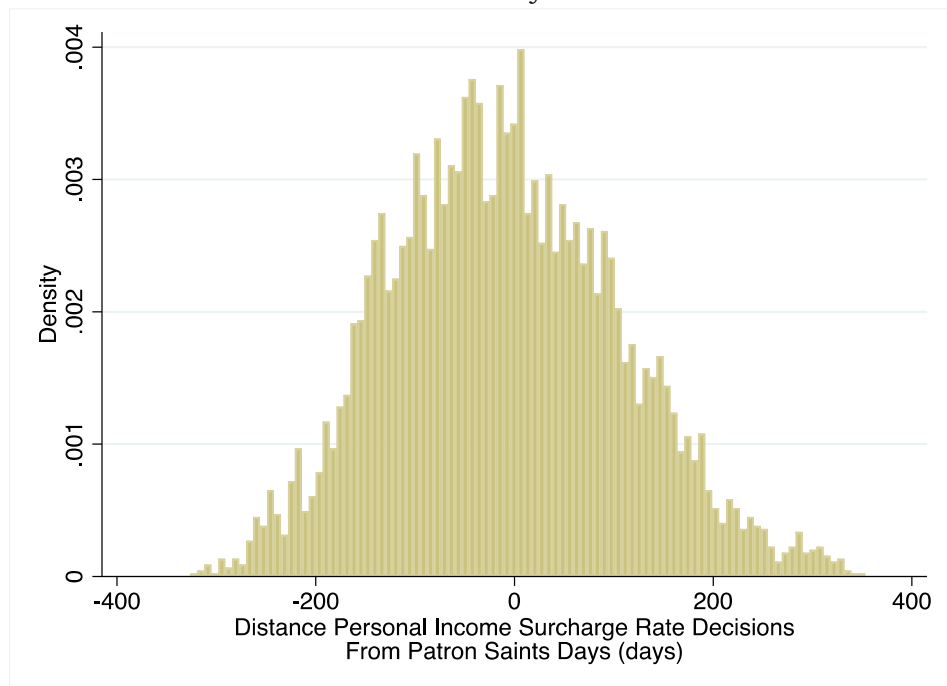
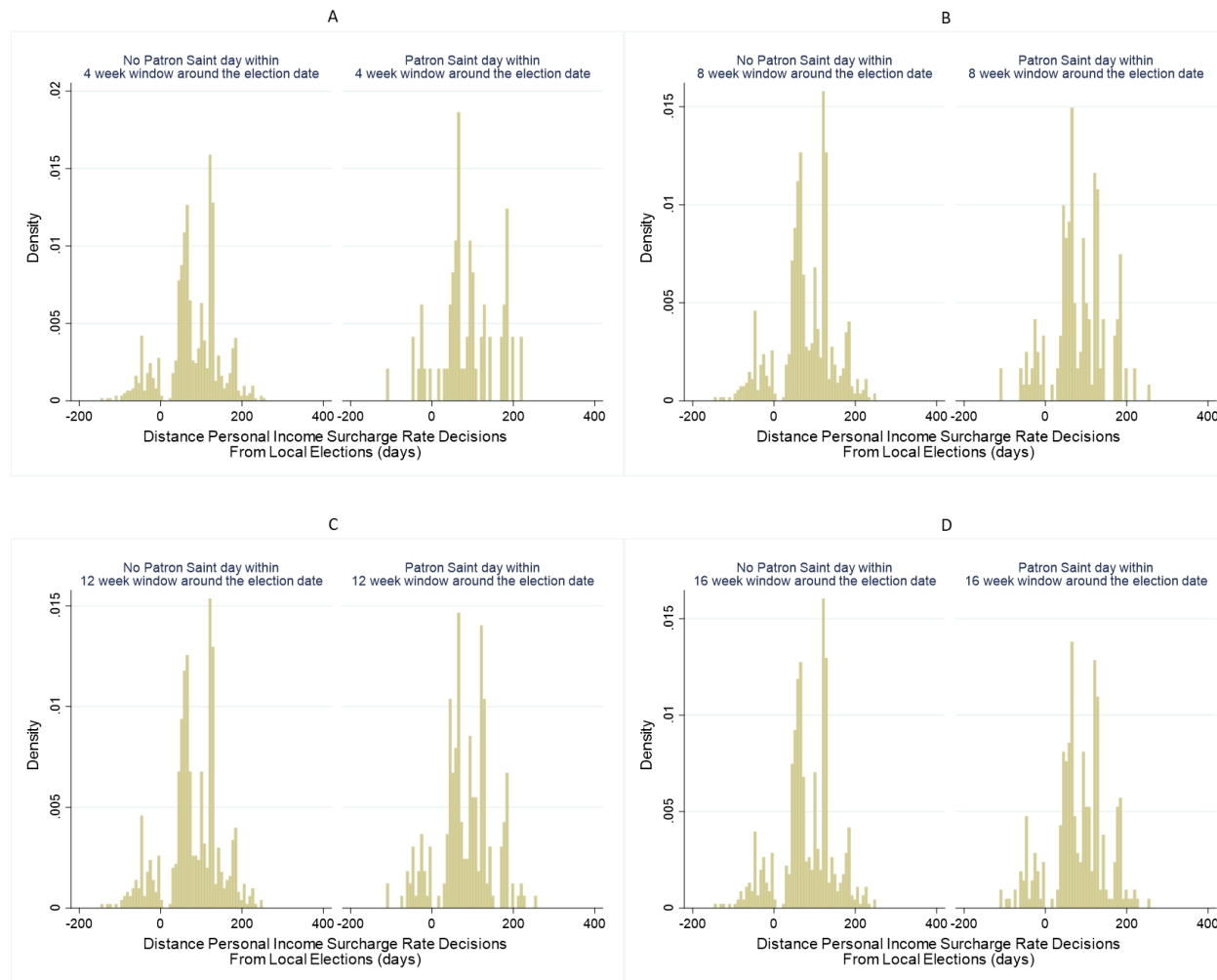


Figure 7 – Distribution of Local Surcharge Income Rate Increases with Respect to Patron Saints Days



Note: 0 on the horizontal axis corresponds to the circumstance where the decision on the local income tax rate exactly coincides with the day of the Patron saint day in that locality, while positive (negative) figures correspond to fiscal decisions made after (before) the Patron Saint day.

Figure 8 – Distribution of Local Income Surcharge Rate Increases with Respect to the Dates of the Elections and to the Concurrence of Patron Saints Days



Note: Density of municipal income tax increases relative to the date of the election whether (right portion of each graph) or not (left portion of each graph) Patron Saint day celebrations occur concurrently with local elections.

Appendix A

Table A1 - Estimated Coefficients on Distance from election Dummies:
Municipal Budget Indicators

	Fiscal Autonomy	Taxation autonomy	Budget surplus
1 year after elections	-0.011*** (0.001)	-0.008*** (0.001)	0.005** (0.002)
2 years after elections	0.009*** (0.001)	0.018*** (0.001)	0.004* (0.002)
3 years after elections	0.005*** (0.001)	0.016*** (0.001)	0.004* (0.002)
4 years after elections	-0.001 (0.001)	-0.0005 (0.001)	-0.009*** (0.002)
Obs	37543	37543	37543

Notes: Annual municipal-level data, 2007-2015. Estimated β_d coefficients from equation (1). Standard errors in parentheses. ***: p-value<0.01; **: p-value<0.05; *: p-value<0.10.

Appendix B

Timing of elections, social capital and the selection of candidates: the model

In order to clarify the mechanism by which the timing of sacred events can transmit to the process of political selection, we briefly sketch here a theoretical model of expressive voting that relies on Lo Prete and Revelli (2017), and easily lends itself to the analysis of the impact of a temporary boost to social capital on the democratic process. The model has two candidates (labelled by l and r) running for mayoral office in city n ($n = 1, \dots, N$) in a ‘winner-takes-all’ race, where the winner sets the ideological policy π^x , with $x \in \{l, r\}$. Voting is driven by the position issue motive π^x – with x -type voters liking the policy of candidate x – and by a common value motive given by the valence of candidates in terms of imperfectly observed competence or probity. In particular, each voter j has a set of beliefs $\{l_j, \kappa_j\}$, with $l_j \in \{l, r\}$ being the ideological attachment to either of the candidates’ policies, and $\kappa_j \in \{l, r\}$ being voter j ’s belief about candidates’ valence. Assume that voter j receives a signal κ_j before the election about the valence of candidates, and that the signal may or may not match a voter’s ideology l_j . If the expressive benefit of voting by ideology is larger than the expressive benefit of voting by valence, a voter votes according to l_j . If the expressive benefit of voting by valence is larger than the expressive benefit of voting by ideology, he votes according to κ_j , thus accepting to ‘cross party lines’ and vote for the candidate that the signal suggests to be the most valent.

Based on the comparison between the benefits and the costs of voting, the net benefit of turning out to vote (e_j) is:

$$e_j = \begin{cases} [i_j + v_j] - c_j & \text{if } l_j = \kappa_j \\ \max\{i_j, v_j\} - c_j & \text{if } l_j \neq \kappa_j \end{cases} \quad (1)$$

where i is the expressive benefit of voting by ideology, v is the expressive benefit of voting for the candidate that is believed to be valent, and c is the cost of voting. A voter turns out to vote ($t_j = 1$) if the net benefit is positive:

$$t_j = 1(e_j > 0) \quad (2)$$

Clearly, voters are more likely to turn out if the valence signals match their ideological views ($l_j = \kappa_j$). Let us assume that $v_j = V$, with V a positive parameter, and that i is independently and uniformly distributed on $[0, I]$, with $I > V$, and cumulative distribution function $\Phi = \frac{i}{I}$.

Figure 9 offers a graphical representation of the forces determining how people vote, and whether they turn out to vote. Voters are first ordered according to the relevance of the private value issue i to them, with Φ on the horizontal axis indexing voters’ cumulative distribution function. The fraction of voters $\Phi = \frac{V}{I}$ in Figure 9 has $i_j < V$ and votes according to the valence signal they receive, while the fraction $1 - \frac{V}{I}$ has $i_j > V$

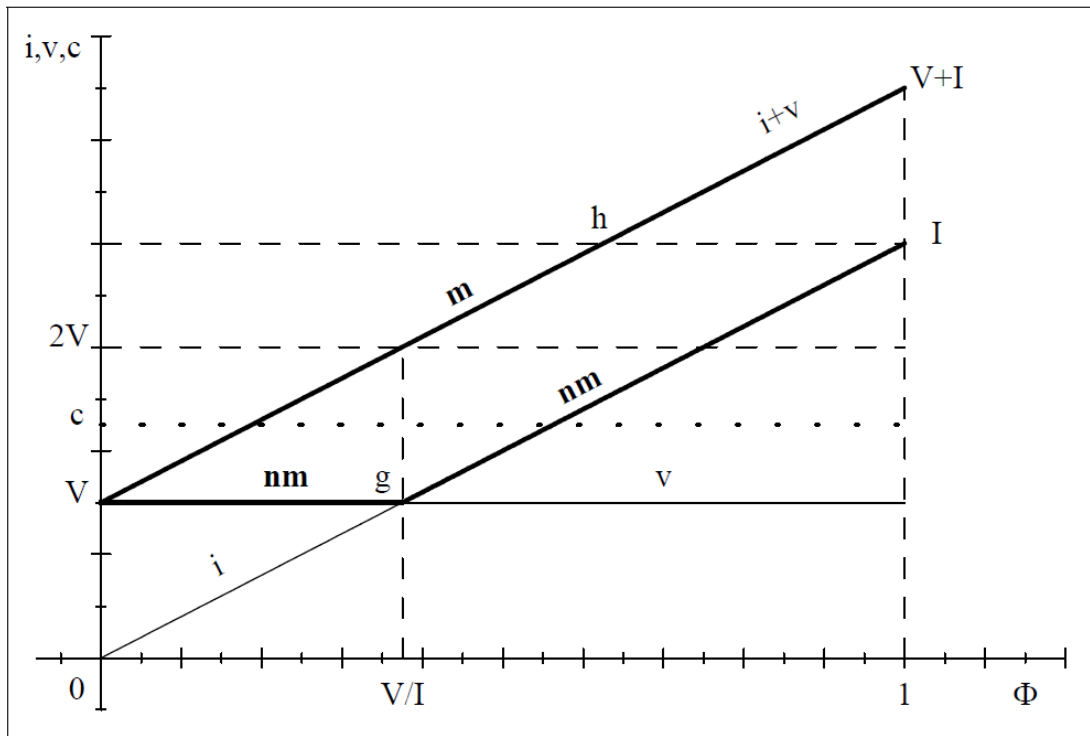
V , and votes ideologically. As for the turnout decision, voters for whom the valence signal matches their ideological views have total benefits from turning out to vote as given by the solid straight line **m** ($i+v$) in Figure 9, while voters for whom valence signals clash with ideological views have benefits described by the solid piecewise linear curve **nm** ($\max\{i, v\}$). If the cost of voting is homogeneous across voters at $c_j = c > 0$, all voters for whom the benefits from voting (**m** or **nm**) exceed c will turn out, while the others will abstain.

[Figure 9 around here]

Consider now what are the consequences of holding the elections in circumstances (like Patron Saint day celebrations) that raise the expressive benefit of voting based on the valence of candidate (V). First, equations (1) and (2) and Figure 9 suggest that, holding everything else constant, an exogenous increase in V raises the rate of turnout. In particular, if the cost of voting c exceeds V , a marginal increase in V raises the turnout rate of voters for whom the valence signal matches their ideological views, leaving the turnout rate of voters for whom the valence signal clashes with their ideology unchanged.¹³ Second, Figure 9 makes it clear that an exogenous increase in V raises the share of individuals that vote according to the valence of candidates (that is, it shifts the V/I threshold to the right), thus raising the chances that a valent candidate is elected. Consequently, both effects work in the direction of tilting the selection mechanism in favor of the most valent candidates.

¹³ Clearly, no effect on turnout should be expected if V already exceeds the cost of voting c .

Figure 9 – Ideology and valence in voting



Note: Graphical representation of the forces determining how people vote, and whether they turn out to vote